

# Lightning

- Lightning often strikes as far as 10 miles away from the parent thunderstorm
- You are in danger from lightning if you can hear thunder
- Travels around 90,000 miles per second
- Thunder is caused by the rapid expansion of air caused by the intense heat of lightning.
- About 50,000 deg F  
3 X hotter than the surface of the sun



# Types of Lightning

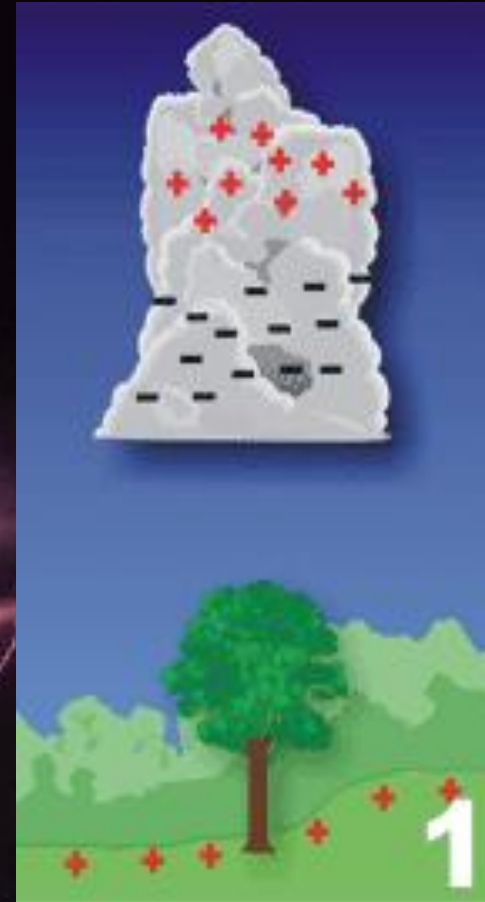
- **There are 4 different types of lightning**
  - **Cloud to Ground (CG)** – Most dangerous and biggest problem in the western U.S. with regards to fire.
  - **In Cloud (IC)**
  - **Cloud to Cloud (CC)**
  - **Cloud to Air (CA)**





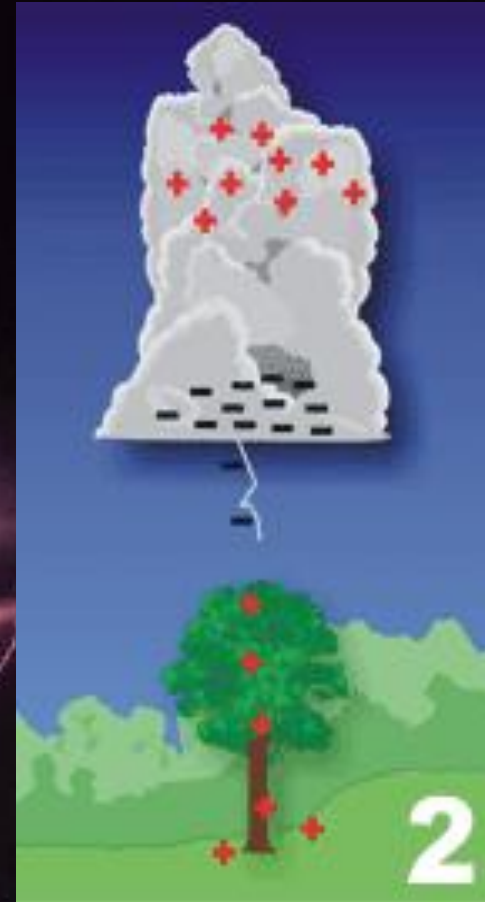
# How does cloud-to-ground lightning form?

Step 1—Electrical charges separate in the cloud.



# How does cloud-to-ground lightning form?

Step 2—Invisible channel descends from the cloud.  
This is called a Step Leader.



# How does cloud-to-ground lightning form?

Step 3—Channel (Positive Streamer) rises from an object to form a complete path for the release of charge build-up. The surge of electricity creates the visible lightning flash.





# Cloud to Ground Lightning



# Lightning Safety

- Postpone activities promptly.  
Don't wait for rain.
- Be the lowest point.  
Lightning usually hits the tallest object.
- If you can't get to a shelter, stay away from trees.
- Avoid leaning against vehicles.
- Lightning can strike up to 10 miles away from the parent thunderstorm.

